



RESEARCH MILESTONES

resulting from American Heart Association funding

Research advances save lives every day. Many have resulted from research we funded: heart-lung machine, CPR, pacemakers, heart valve replacement, blood pressure and cholesterol drugs, microsurgery, diet and exercise guidelines.

We have spent over \$2.1 billion on heart and stroke research since 1948. Five Nobel Prizes have been awarded to researchers that we funded at key points in their careers. Here are some important “firsts.”

- 1948** First American Heart Association research grant to 1937 Nobel Prize winner who studies **muscle energetics**
- 1949** Diuretic “sulfamylamide” treats **high blood pressure** *(National American Heart Association funding)*
- 1952** **Artificial heart machine** used in open-heart surgery *(Michigan Affiliate funding)*
- 1956** Dietary fat linked to **cholesterol** and heart disease *(Minnesota Affiliate)*
Defibrillator restarts a heart *(Massachusetts Affiliate)*
- 1957** External **pacemaker** *(Minnesota Affiliate)*
Drug “chlorothiazide” reduces **high blood pressure** *(National funding)*
- 1958** Radioactive potassium and rubidium measure **blood flow** *(Central Ohio Chapter)*
Lack of oxygen to heart muscle linked to **chest pain** *(National funding)*
- 1960** Completely-implanted **pacemaker** *(New York State Affiliate)*
Artificial heart valve *(Oregon Affiliate)*
- 1961** **Surgery using microscope** *(Vermont Affiliate)*
External cardiac massage used on 118 patients (led to **CPR**) *(Maryland Affiliate)*
- 1963** **Artificial heart valve** improved *(Wisconsin Affiliate)*
- 1964** Radioactive xenon measures **blood flow** in heart *(Maryland Affiliate)*
“**Portable**” heart-lung machine *(Wisconsin Affiliate)*
Test for **blood clots** *(Wisconsin Affiliate)*
- 1966** 20-year study identifies **high blood pressure** as major health risk *(National funding)*
Improved oxygen flow remedies otherwise fatal **heart defect** *(SE Pennsylvania Affiliate)*
- 1968** **Cholesterol-lowering drug** *(National funding)*
Midwest’s first **heart transplant** *(Researcher funded earlier by Wisconsin Affiliate)*
Double bypass surgery *(Researcher funded earlier by Wisconsin Affiliate)*
- 1972** Dr. Sutherland wins Nobel Prize: identified cyclic AMP as **intra-cellular messenger**
(Funded earlier by national American Heart Association)
Cause of **high blood pressure** linked to kidneys *(National funding)*
- 1975** Aspirin prevents **blood clots** in narrowed arteries *(Wisconsin Affiliate)*
- 1985** Drs. Goldstein & Brown win Nobel Prize: role of **LDL** cholesterol. *(Funded earlier by American Heart Association)*
- 1989** FDA approves testing of **artificial Milwaukee Heart** *(Several researchers funded earlier by Wisconsin Affiliate)*
- 1990** FDA approves drug for **respiratory distress** in premature babies. *(Researcher funded earlier by American Heart Association)*
- 1992** Drs. Krebs & Fischer win Nobel Prize: how **proteins** are “**switched on**” to perform functions in cells.
(Funded earlier by national American Heart Association)
- 1998** Three Americans win Nobel Prize: discover nitric oxide, a colorless gas that makes blood vessels dilate
(One researcher funded earlier by American Heart Association)
- 2003** Dr. Agre wins Nobel Prize: discovers proteins that govern movement of water in and out of cells
(Researcher funded earlier by American Heart Association)

Despite this progress, much more needs to be done. Cardiovascular disease still kills over 930,000 Americans a year.